

SELECTION GUIDE



SERIES		EL950		
TYPE	MEDIUM	FINE	BEOFRE THREADING	
PILOT DIA.	3.4~14.0	3.2~13.0	2.5~10.2	
CUTTER DIA.	6.0~20.0			
PAGE	A419			
SURFACE TREATMENT	Bright			

HSS-E  
**COUNTERBORES**

For Machining Screw Head Seats



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A421

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	
	2		About 0.45% C Annealed	190	13	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	
	4		About 0.75% C Annealed	270	28	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	
	6	Low alloy steel	Annealed	180	10	◎	
	7		Quenched & Tempered	275	29	◎	
	8		Quenched & Tempered	300	32	◎	
	9		Quenched & Tempered	350	38	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎
	11			Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10		
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19		Ferritic	130			
	20		Pearlitic	230	21		
N	21	Aluminum-wrought alloy	Not Curable	60		○	
	22		Curable Hardened	100		○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	
	24		≤ 12% Si, Curable Hardened	90		○	
	25		> 12% Si, Not Curable	130			
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Duroplastic, Fiber Reinforced Plastic				
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	
	32			Cured	280	30	
	33		Annealed	250	25		
	34		Ni or Co Based	Cured	350	38	
	35			Cast	320	34	
	36			Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys	Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
41	Hardened Cast Iron	Hardened	550	55			



EL950 SERIES

HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW

● HSS-E, 3 SCHNEIDEN FLACHSENKER MIT FESTEM FÜHRUNGSZAPFEN  
○ FRAISES À LAMER HSS-E 3 DENTS TÊTE DE VIS À 180°  
○ LAMATORI A TRE TAGLIENTI IN HSS-E per sedi di viti a testa cilindrica a 180°

▶ The counterbores with solid pilot are designed for machining as filler screw caps or ejector caps in molds.

▶ Die Flachsenker mit festem Führungszapfen dienen dem 180° Ansenken für Zylinderkopfschrauben und Auswerferstiften in Formen



HSS-E DIN 373 3 PLAIN Bright p.A421

Plain Shank ER COLLET CHUCK D73-115

MEDIUM

Unit : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter	Cutter Diameter	Shank Diameter	Overall Length
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950003	YG54M3-M	M3	3.4	6.0	5	71
EL950035	YG54M3.5-M	M3.5	3.9	6.5	5	71
EL950004	YG54M4-M	M4	4.5	8.0	5	71
EL950005	YG54M5-M	M5	5.5	10.0	8	80
EL950006	YG54M6-M	M6	6.6	11.0	8	80
EL950008	YG54M8-M	M8	9.0	15.0	12.5	100
EL950010	YG54M10-M	M10	11.0	18.0	12.5	100
EL950012	YG54M12-M	M12	14.0	20.0	12.5	100

FINE

Unit : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter	Cutter Diameter	Shank Diameter	Overall Length
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950901	YG54M3-F	M3	3.2	6.0	5	71
EL950902	YG54M3.5-F	M3.5	3.7	6.5	5	71
EL950903	YG54M4-F	M4	4.3	8.0	5	71
EL950904	YG54M5-F	M5	5.3	10.0	8	80
EL950905	YG54M6-F	M6	6.4	11.0	8	80
EL950906	YG54M8-F	M8	8.4	15.0	12.5	100
EL950907	YG54M10-F	M10	10.5	18.0	12.5	100
EL950908	YG54M12-F	M12	13.0	20.0	12.5	100

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◎ : Excellent ○ : Good

ISO	P											M				K				
	Non-alloy steel					Low alloy steel						High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

  

ISO	N										S					H					
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

